

Ocular Health

Guideline: Each person should receive periodic comprehensive medical eye evaluations by an eye care professional to detect ocular disease, provide early treatment, and thereby preserve visual function.

The following Guideline is intended to help physicians, nurses, and others involved in clinical decision-making by describing the recommended course of action regarding ocular health for individuals served by SCDDSN. As much as possible, the recommendations reflect the strength of evidence and magnitude of net benefit (benefits minus harms) as reported by the U.S. Preventive Services Task Force, the American Academy of Ophthalmology, and other nationally recognized health organizations. Decisions about screening for each individual should be based on clinical history, assessment, and other factors unique to the individual. When, because of behavioral or physical conditions, it would be necessary to use conscious sedation or general anesthesia to complete screening procedures, screenings should be completed at the discretion of the primary care prescriber after a risk/benefit analysis has been completed.

DEFINITIONS:

Ocular screening: An assessment provided by the primary care prescriber or eye care consultant to check for indications of eye health or vision problems. The screening includes an ophthalmoscopic examination and assessment of eye movement, visual fields, and gross acuity.

Comprehensive medical eye examination: An eye examination provided by an ophthalmologist to (a) detect abnormalities that may cause vision loss or visual malfunction; (b) affect the health and function of the individual; and/or (c) be associated with systemic disorders or diseases.

Optometrist: An optometrist is a health service provider who is involved exclusively with vision problems. Optometrists determine visual acuity and prescribe eye glasses and contact lenses. Optometrists give limited treatments of some eye problems. Optometrists may be used for the assessment of acuity and prescribing of glasses.

Ophthalmologist: An ophthalmologist is a physician (doctor of medicine, M.D., or doctor of osteopathy, D.O.) who specializes in the medical and surgical care of the eyes and the visual system and in the prevention of eye disease and injury. Ophthalmologists deliver total eye care: primary, secondary, and tertiary (i.e., vision services, contact lenses, eye examination, medical eye care and surgical eye care), diagnose general diseases of the body and treat ocular manifestations of systemic diseases. Ophthalmologists should be used for comprehensive medical eye examinations.

RATIONALE:

1. Periodic eye examinations should be an important part of routine preventive health care.
2. Maintaining eyesight through effective eye care and treatment of ocular disease enhances quality of life and improves physical function.
3. The need for and frequency of eye examinations varies with age, race, medical history, family history, and other risk factors. Visual impairment and legal blindness are twice as common among African-Americans when compared with caucasian Americans.
4. A comprehensive eye examination should detect abnormalities that may cause vision loss or visual malfunction, affect the health and function of the individual, or may be associated with systemic disorders or diseases.

RATIONALE cont'd:

5. Early diagnosis and treatment are important for maintaining good vision and preserving visual function.
6. The leading causes of blindness in the U.S. are cataract, glaucoma, diabetic retinopathy, and macular degeneration.
7. A comprehensive ophthalmologic evaluation may provide initial findings that lead to diagnosis of systemic disease including, but not limited, to hypertension, diabetes mellitus, AIDS, central nervous system abnormalities, hematologic diseases, and cerebrovascular disease.
8. Individuals with neurological and developmental disorders are at greater risk for eye problems, and often are unable to cooperate adequately for ocular screening and/or comprehensive medical eye examinations.
9. Vision problems can affect a person's level of functioning and hinder developmental progress.

Expected Outcomes:

1. **Annual physical examinations**
 - a. Annual physical examinations by the primary care prescriber should include an examination of the eyes.
 - b. Screening methods may include: (a) inspection, (b) red reflex, (c) corneal light reflex/cover-uncover, (d) alternate occlusion, (e) fix and follow with each eye, and (f) best corrected acuity.
 - c. The results of the examination will be documented in the medical progress notes or as part of the annual physical examination. The documentation should include whether the examination was completed with or without glasses.
 - d. The techniques used and the ability to complete diagnostic procedures may differ depending on the person's mental and emotional development, his or her ability to interact with the examiner, and the examination equipment.
2. **Eye Injuries**

Eye injuries should be evaluated and treated promptly.
3. **Referral**
 - a. If no risk factors are present, adults should be seen by an ophthalmologist at the following intervals:
 1. 65 years or older - every 1- 2 years
 2. 40 - 64 years - every 2 - 4 years
 3. 30 – 39 years – at least twice during this period
 4. 20 - 29 years - at least once during this period
 - b. Prompt referral to an appropriate eye care professional will be made when a vision or eye health problem is suspected. Referrals should be made to the ophthalmologist if the individual:
 1. has risk factors for eye disorders or disease (see Table I on page 4);
 2. takes medications requiring periodic eye exams (see Table II on page 5);
 3. receives other systemic medications which may cause adverse ocular effects;
 4. is unable to pass a screening evaluation;
 5. has current or historical signs or symptoms of eye problems.
 - c. Referrals may be made to an optometrist for problems with acuity and prescribing of eyewear.

- d. When referrals are made, the following information should accompany the person to the appointment:
 - 1. Names and addresses of other pertinent health care providers who care for individual
 - 2. Reason for the referral
 - 3. History of the currently perceived or noted eye problem
 - 4. Ocular history: prior eye problems, diseases, diagnoses, treatments, injuries, and surgery
 - 5. Medications: Ophthalmic and systemic medications currently used including nutritional supplements
 - 6. Any known allergies
 - 7. Family history: known eye diseases and pertinent systemic diseases
 - 8. Past history (systemic): medication history, pertinent medical problems and hospitalizations, allergies or adverse reactions to medications
 - 9. Relevant information regarding the individual's general health and developmental status
 - e. Recommendations made by the optometrist or ophthalmologist about the frequency of subsequent examinations should be followed.
 - f. It is recommended that steroid eye drops are NOT used without concurrence of an ophthalmologist.
- 4. **Optical Aids and/or Prostheses**
Prescribed optical aids and prostheses should be maintained in good condition.
 - 5. **Services for Visually Impaired**
People with severe vision loss should be referred to services for the visually impaired for evaluation. Individualized programs including safety measures should be developed and implemented. Adaptive equipment may be needed to meet the person's needs.
 - 6. **Documentation**
Results of the most current optometry/ophthalmologic exam should be included in the annual Single Plan.
 - 7. **Monitoring individuals receiving medications**
Certain medications may put a person at higher risk for ocular problems. People receiving medication or treatments listed in Supporting Information - Table II should be seen periodically by an eye care professional.

SUPPORTING INFORMATION

The presence of certain situations/conditions may increase the risk of people having eye disorders or eye disease. More frequent evaluations may be needed when these risk factors occur. Certain medical diagnoses (e.g., Marfan's Syndrome, Down Syndrome, and homocystinuria) require an initial examination and periodic follow-up by an ophthalmologist.

Table I: Risk Factors for Eye Disorders and Disease

INFANTS AND CHILDREN (Birth to age 5)

1. Premature or low birth weight infants
2. Those whose mother had rubella, venereal disease, AIDS related infection, and history of substance abuse or other medical problems during pregnancy
3. A high degree of nearsightedness, farsightedness, or astigmatism
4. A family history of eye disease, crossed eyes, eye surgery, congenital disorders, glaucoma, or retinal detachment

SCHOOL-AGED CHILDREN (Ages 6 to 19 years)

Children failing to progress educationally or exhibiting reading and/or learning disabilities should receive an eye examination as part of a multidisciplinary evaluation.

ADULTS (Ages 20 to 60 years)

1. Diabetes – Should be examined at least annually.
2. Hypertension
3. Family history of glaucoma, particularly African Americans.
African Americans: All should be examined for glaucoma every 3-5 years between ages 20 – 29 and every 2 years between 30-60.
4. Working in eye hazardous or highly visually demanding occupations
5. Certain systemic medications with ocular side effects
6. Previous eye injury or surgery

OLDER ADULTS (Age 61 and older)

1. Diabetes – Should be examined at least annually.
2. Hypertension
3. Heart Disease
4. Family history of glaucoma, particularly African Americans.
African Americans: All should be examined for glaucoma every 1-2 years after age 60.
5. Far-sighted people or people of Asian descent are at greater risk of developing angle closure glaucoma.
6. Family history of glaucoma, cataracts, macular degeneration, or blindness
7. Systemic medications with ocular side effects

Table II. Common Drug Therapies Requiring Periodic Eye Exams

ANTICONVULSANTS		
DRUG	RATIONALE	SPECIAL CONSIDERATIONS
TEGRETOL (Carbamazepine)	May cause mydriasis; decreased vision; diplopia; and nystagmus	Drug has mild anticholinergic effects and may elevate intraocular pressure
KLONOPIN (Clonazepam)	May cause eye irritation and visual problems such as diplopia, and visual field defect	Contraindicated in acute angle-closure glaucoma; establish baseline screening to identify undiagnosed glaucoma
TRIDIONE (Trimethadione)	May cause hemeralopia (defective vision in bright light) or other visual disturbances	Discontinue if scotomata is detected. May cause abnormal color vision, visual sensations, diplopia, night blindness, photophobia

ANTIDEPRESSANTS	
Examinations are needed to detect glaucoma when the following medications are prescribed. Anticholinergic effects of the medication may exacerbate glaucoma.	
ANAFRANIL (Clomipramine)	PROZAC (Fluoxetine)
ASENDIN (Amoxapine)	SINEQUAN (Doxepin)
ELAVIL or ENDEP (Amitriptyline)	SURMONTIL (Trimipramine)
LUDIOMIL (Maprotiline)	TOFRANIL (Imipramine)
NORPRAMINE (Desipramine)	VIVACTIL (Protriptyline)
PAMELOR or AVENTYL (Nortriptyline)	
Examinations to detect possible toxic effects are needed when the following medications are used. On rare occasions, prolonged use may be associated with decreased vision, visual disturbances, mydriasis, and ptosis.	
MARPLAN (Isocarboxazid)	
NARDIL (Phenelzine)	
PARNATE (Tranlycypromine)	

ANTIPARKINSONIAN AGENTS	
Examinations to detect toxic effects are needed when the following medications are used. Anti-cholinergic effects of the medication may unmask glaucoma in pre-disposed individuals.	
AKINETON (Biperiden)	KEMADRIN (Procyclidine)
ARTANE (Trihexyphenidyl)	NORGESIC, NORFLEX (Orphenadrine)
COGENTIN (Benztropine)	PERMAX (Pergolide)

Table II. Common Drug Therapies Requiring Periodic Eye Exams cont'd

ANTIPSYCHOTIC AGENTS	
Examinations to detect any adverse drug effects are needed when the following medications are used. Corneal opacities and retinopathy have been reported after prolonged, high-dose therapy. Additional adverse ocular reactions may include: abnormal color vision, decreased vision, lacrimation, lens pigmentary deposits, myopia, oculogyric crises, paralysis of accommodation, photosensitivity, and punctate keratitis.	
COMPAZINE (Prochlorperazine)	
LOXITANE (Loxapine)	
MELLARIL (Thioridazine) - Dosage limited to 800 mg/day due to potential retinal changes	
MOBAN (Molindone)	
NAVANE (Thiothixene)	
PROLIXIN, PERMITI (Fluphenazine)	
SERENTIL (Mesoridazine)	
SPARINE (Promazine)	
STELAZINE (Trifluoperazine)	
TARACTAN (Clorprothixene)	
THORAZINE (Chlorpromazine)	
TINDAL (Acetophenazine)	
TRILAFON (Perphenazine)	

MISCELLANEOUS AGENTS	
DRUG	POTENTIAL PROBLEM
CORDERONE (Amiodarone)	Keratopathy, lens opacities, optic neuritis,
MYAMBUTOL (Ethambutol)	Optic Neuropathy
PLAQUENIL (Hydroxychloroquine)	Corneal and macular changes
Chronic oral and topical STEROID use	Increased risk of cataracts and glaucoma

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